

C l a i m s

1. A frame support for a rack or a switchgear cabinet, having an electrification arrangement, which is combined with at least one frame leg (2, 3) or profiled mounting element (4), for supplying and/or removing electrical current to or from devices which can be connected with it,

characterized in that

the electrification arrangement has at least one separate electrification strip (60) attached to a frame leg (2, 3) or profiled mounting element (4), which is formed by a hollow profiled receiving element (6), which is at least partially open on a long side and in whose at least one hollow space contact rails (10) or connection lines (16) are installed in a manner protected against electric shock, and

inserts (7) are provided, which are inserted or can be inserted into the electrification strip (60) and have plug receivers protected against electric shock for device plugs of the devices to be connected, as well as contact elements (7.11), which are or can be brought into electrical contact with the contact rails (10) or connecting lines (16).

2. The frame support in accordance with claim 1, characterized in that

a profiled insulating element (9), in which the contact rails (10) are embedded and are accessible in a manner protected against electric shock through access openings (9.23) formed in the profiled insulating element (9), has been inserted into at least one hollow space (6.3, 6.3') of the profiled receiving element (6).

3. The frame support in accordance with claim 2, characterized in that

the hollow space (6.3) is shaped rectangular or square in cross section and has a base wall (6.2) located opposite the open longitudinal side, which is adjoined by lateral walls (6.1),

the bottom (9.3) of a bottom section of the profiled insulated element (9) in which the contact rails (10) are embedded faces the base wall (6.2) or a lateral wall (6.1), and

the contact rails (10) can be brought into contact with the contact elements (7.11) via access openings (9.23), which are kept narrow for electric shock protection and have been cut into the bottom section of the side located opposite the bottom side.

4. The frame support in accordance with claim 2 or 3, characterized in that

the insulated profiled element (9) is fixed in place in the profiled receiving element (6) by means of snap-in structures (9.21, 9.22, 9.22') arranged on it and complementary counter-snap-in structures (6.11, 6.11') arranged in the profiled receiving element (6).

5. The frame support in accordance with claim 4, characterized in that

the snap-in structures (9.21, 9.22, 9.22') and the counter-snap-in structures (6.11, 6.11') have steep snap-in flanks opposite the insertion direction, so that the profiled insulating element (9) cannot be removed without being destroyed.

6. The frame support in accordance with one of claims 2 to 5,

characterized in that

the profiled insulating element (9) has been assembled from a profiled base insulating part (9.1), which receives the contact rails (10) in longitudinal chambers and insulates them from each other, and a profiled top insulating part (9.2), which covers the contact rails (10) and has access openings (9.23).

7. The frame support in accordance with one of claims 2 to 6,

characterized in that

the access openings (9.23) of each insert (7) are formed by a group of at least two hole-shaped access openings, which are assigned to separate contact rails (10).

8. The frame support in accordance with claim 7, characterized in that

at least two access openings (9.23) are offset from each other in the longitudinal direction of the profiled insulating element (9).

9. The frame support in accordance with one of claims 2 to 8,

characterized in that

the contact elements are designed as contact pins (7.11), which have been matched in size and position to the access openings (9.23).

10. The frame support in accordance with one of the preceding claims,

characterized in that

the inserts (7) are provided with snap-in elements (7.14, 7.14'), by means of which they can be fixed in place so they cannot be removed from the profiled receiving element (6) or the counter-snap-in elements (6.12, 9.4) formed on the profiled insulating element (9) without being destroyed, or can only be removed by using a tool or by means of an actuating element (7.13) which releases the snapped-in connection.

11. The frame support in accordance with one of the preceding claims,

characterized in that

at least three contact rails (10) are embedded in the profiled insulating element (9), or three connecting lines (16) are provided, by means of which at least two separate current supply circuits are formed.

12. The frame support in accordance with claim 11, characterized in that the number of the inserts (7) used is or can be distributed over the different current supply circuits.

13. The frame support in accordance with one of the preceding claims, characterized in that the dimension of the inserts (7) in the longitudinal direction of the electrification strip (60) is a unit of height or a whole-number multiple thereof, and the inserts (7) are designed for receiving one or several appliance plugs.

14. The frame support in accordance with one of the preceding claims, characterized in that the profiled receiving element (6) is provided on at least one longitudinal side with fastening elements for connection with at least one frame leg (2, 3) or profiled mounting element (4, 5).

15. The frame support in accordance with claim 14, characterized in that the fastening elements are embodied for a screw, clip, snap-in, plug or clamping connection.

16. The frame support in accordance with one of the preceding claims, characterized in that

the profiled receiving element (6) is embodied to be H-shaped in cross section with two lateral walls (6.1) and a center wall (6.4), and

the inserts (7) are placed into the hollow space (6.3) on a side of the center wall (6.4) facing the user, while the contact rails (10) or the connecting lines (16) are placed into the hollow space (6.3') facing away from the user and are accessible through the center wall (6.4).

17. The frame support in accordance with claim 16, characterized in that

cutouts are provided in the center wall (5.4), into which plug-in couplings (11) have been inserted in a manner protected against electric shock, which are accessible from the user side, and

at least one plug unit matched to the plug-in couplings (11) is arranged on the back of the inserts (7) facing away from the user.

18. The frame support in accordance with claim 17, characterized in that

two plug-in couplings (11) per insert (7), which are spaced apart from each other in the longitudinal direction of the profiled receiving element, are provided and are connected to different current supply arrangements (7.4, 7.5), and

the backs of the inserts (7) for selecting one of the two current supply arrangements (7.4, 7.5) can be inserted into the profiled receiving element (6) rotated by 180° and can be connected with the respective plug-in coupling (11).

19. The frame support in accordance with one of the preceding claims,

characterized in that

the inserts (7) are modular housings with cap-like closure

pieces (7.3) which, from one of the adjoining narrow sides, have been placed on their ends which are remote from each other in the longitudinal direction, on the sides of which the snap-in elements (7.14) are formed of one piece with resilient snap-in fingers and actuating elements (7.13) for release.

20. The frame support in accordance with one of the preceding claims,
characterized in that
an overload release device is integrated into the inserts.

21. The frame support in accordance with one of the preceding claims,
characterized in that
at least one electric shock protected current feed-in coupling (12) for the current supply is arranged in an end section of the profiled receiving element (6), and
a current feed-in plug matched (13) to the current feed-in coupling (12) and having a current supply cable (14) connected therewith is provided.

22. The frame support in accordance with claim 21,
characterized in that the current feed-in coupling (12) is embodied on or in a feed-in module (15), and
a line element for voltage conversion or adaptation, a current limiting device and/or a switching element for the sequential activation of individual inserts (7) is integrated into the feed-in module (15).

23. A electrification arrangement for a rack or a switchgear cabinet, having a structure in accordance with the characterizing portion of claim 1.

24. The electrification arrangement in accordance with

claim 23,

characterized by a design in accordance with the
characterizing portion of one of claims 2 to 22.